

Public Understanding of Risk and Reasons for Smoking Low-Yield Products

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INTRODUCTION Few members of the public understand the probabilities and odds that form the vocabulary scientists use to discuss risk (Weinstein, 1999). Thus, lay people rely upon other cues, such as the cigarette labels 'Light' and 'Ultra Light', to help them make decisions about smoking and other hazards (see Chapter 7). This chapter examines public perceptions of Light cigarettes, reasons for smoking Lights, and the relationship between smoking Lights and quitting.

PERCEPTIONS OF LIGHT CIGARETTES The labels 'Light' and 'Ultra Light', when applied to cigarettes, imply a variety of benefits. These include lower levels of tar and nicotine, less risk to health, and milder taste. Cigarette advertising, including the way in which these labels are used in the advertising, further modifies and shapes public perceptions of these products. What 'Light' and 'Ultra Light' come to mean to members of the public is an empirical question that can be revealed by careful survey research.

A substantial portion of smokers believe that low-tar cigarettes are less risky than Regular cigarettes. For example, a nationwide 1987 survey (Giovino *et al.*, 1996, p. 49) found that 45.7 percent of Ultra-Light smokers, 32.2 percent of Light smokers, and 29.4 percent of Regular smokers said that low-tar cigarettes reduce the risk of cancer. Nevertheless, smokers' knowledge about low-tar cigarettes is quite limited.

In 1995, a random sample of 12,371 Canadian adults were asked by telephone interviewers what the word "light" means in relation to cigarettes (Health Canada, 1995). The most frequently mentioned topics were: "less tar" (20.1 percent), "less nicotine" (36.2 percent), "safer" or "less addictive" (3.2 percent), "milder taste" (6.7 percent), "different filter" (2.3 percent), and "nothing" or "ad gimmick" (14.1 percent). A further 21.2 percent had no idea what the term meant. The meanings ascribed to "light" were generally similar among various subgroups of smokers, although former and never smokers were more likely than current smokers to say that they had no idea what the term meant (17.8 percent and 28.7 percent versus 12.2 percent, respectively), and former smokers were more likely than current and never smokers to state that "light" was a meaningless advertising term (22.2 percent versus 16.0 percent and 10.6 percent, respectively).

A 1994 national random telephone survey found that 95% of regular smokers could identify that they were "somewhat certain" or "very certain" that they smoked a Regular, Light, or Ultra-Light cigarette (Kozlowski *et al.*, 1998a & b). However, when asked how much tar their cigarettes contained,

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few smokers knew the answer to this question. For example, Cohen (1996a, p. 128) reported that 79% of smokers answered that they did not know the answer to the question. Comparing the estimates given by smokers to the actual figures for their brands, Kozlowski and colleagues (1998b) found that only 3% of smokers could correctly state (within 2 mg) the amount of tar in their cigarettes. In fact, few knew where to look to learn the tar content (Kozlowski *et al.*, 1998b). Although 67% of smokers said that they would look on their cigarette package to find the tar content, only 6.3% of cigarettes sold have this information on the package. When asked how many Light cigarettes someone would have to smoke to get the same amount of tar as from one Regular cigarette, the most common response from about half of those surveyed was, "don't know"; about 40 percent said two cigarettes or more and less than 10 percent said one cigarette (Kozlowski *et al.*, 1998a).

There are significant differences in knowledge and reported use of tar numbers among different types of smokers. For example, when Ultra-Light, Light, and Regular cigarettes were compared, the members of the first group were found to be somewhat more accurate about their cigarette's tar number (Kozlowski *et al.*, 1998b). Accuracy was shown by 17% of Ultra-Light smokers, 2% of Light smokers, and 1% of Regular smokers. Ultra-Light smokers were also much more likely to say they used this number in making judgments about cigarette safety (Cohen, 1996a, p. 132). Thus, although only 14% of Cohen's overall sample said that they used tar numbers to make such judgments, 56% of the smokers of 1- to 5-mg tar cigarettes said that they determined safety from advertised tar values. Ultra-Light smokers also saw a much bigger difference between the risk of Regular and Light cigarettes than did other smokers (Cohen, 1996a, p. 130). A large majority (83%) of Ultra-Light smokers said that switching from a 20-mg to a 5-mg tar cigarette would significantly reduce health risks, whereas only about 50% of other smokers shared this belief.

Clearly, knowledge about the reported tar values of their chosen brands, about where these values can be found, and about vent holes in cigarettes is largely absent among smokers. Of particular importance is the finding that a large proportion of smokers believe that switching to a lower tar cigarette reduces one's health risks, and since most smokers are only aware of a cigarette's advertised type—'Regular', 'Light', or 'Ultra Light'—and not its tar number, this classification is used as a surrogate to indicate risk. Attention to tar numbers is particularly true among Ultra-Light smokers, a majority of whom say they use these numbers to judge a cigarette's safety.

REASONS FOR SMOKING OR SWITCHING TO LIGHT CIGARETTES A variety of studies have asked smokers about their reasons for choosing to smoke Light or Ultra Light cigarettes or their reasons for switching to such cigarettes. The results show that the desire to reduce disease risk is one of the main factors guiding these choices. Although it would be desirable to distinguish in this section between initial cigarette choices, switching as a prelude to quitting, switching as a substitute for quitting, and switching following an unsuccessful quit attempt, the available data do not permit such a fine-grained analysis. In the 1987 National Health Interview Survey

(Giovino *et al.*, 1996, p. 45), 44 percent of current smokers said that they had at some time switched to a low-tar/low-nicotine cigarette in order to reduce their health risk. Similarly, a national survey found that about 60 percent of Ultra-Light smokers and approximately 40 percent of Light smokers said that they smoked reduced-tar cigarettes “to reduce the risks of smoking without having to give up smoking” (Kozlowski *et al.*, 1998a)

In this same national telephone survey, the reasons given by current daily smokers for why they chose to smoke Ultra-Light/Light cigarettes were: step toward quitting (49/30 percent), reduce risk (58/39 percent), reduce tar (73/57 percent), reduce nicotine (72/50 percent), and prefer the taste (69/80 percent) (Kozlowski *et al.*, 1998a). Very similar figures were obtained in telephone interviews of 266 randomly selected Massachusetts smokers (Kozlowski *et al.*, 1998a). In a recent experiment involving a randomly selected sample of 568 smokers of Light cigarettes, the reasons given for smoking Light cigarettes by people in the control or delayed intervention groups were: step toward quitting (25 percent), reduce risk (43 percent), reduce tar or nicotine (70 percent), and prefer taste (81 percent) (Kozlowski *et al.*, 1999). In these same groups, 39 percent said that Light cigarettes decreased their risk of having health problems.

A national survey of adolescents and young adults in 1993 found somewhat less of an emphasis on health issues, with smokers of Light or Ultra-Light cigarettes saying that they chose their brand because of taste (33 percent), because they were less irritating (29 percent), because they were healthier than other brands (21 percent), and because they “just liked them” (19 percent) (Giovino *et al.*, 1996, p. 49).

Not surprisingly, national survey of adults in 1986 showed that those who have ever switched in order to reduce tar or nicotine are more likely than those who never switched to believe that some brands are more hazardous than others (54 percent versus 40 percent, respectively) and to believe that their current brand is less hazardous than other brands (33 percent versus 16 percent, respectively) (Giovino *et al.*, 1996, p. 50). Although most smokers recognize that smoking is risky to one’s health, those who chose Light and Ultra-Light cigarettes are more likely to acknowledge the risk than smokers of Regular cigarettes. For example, 85 percent of those who had switched to lower tar/nicotine brands said they were concerned about the health effects of smoking, compared to 70 percent of those who had never made this switch (Giovino *et al.*, 1996, p. 50). People who had switched were also more likely to say that their health had been affected by smoking and that a doctor had advised them to quit (Giovino *et al.*, 1996, p. 48).

Similarly, when the previously mentioned Canadian smokers were asked about the likelihood of developing health problems such as emphysema, asthma, lung cancer, or stroke from smoking for many years, those who had switched from Regular to Light cigarettes cited more problems as very likely than those who started and continued smoking Regular cigarettes (2.13 v. 1.94 problems, respectively) (data from Health Canada, 1995).

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Overall, the data are consistent in showing that smokers of Light and Ultra-Light cigarettes are especially concerned about protecting their health. The majority of these smokers choose Light or Ultra-Light cigarettes in the belief that this will reduce their health risks and/or make it easier to quit.

THE RELATIONSHIP OF SWITCHING TO QUITTING Smokers of low-yield cigarettes not only express greater concern about the risks of smoking, but they also show more interest in quitting. In fact, 38 percent of the smoker respondents to the 1987 National Health Interview Survey who switched to Light cigarettes saw this change as a step toward quitting (Giovino *et al.*, 1996, p. 49), and people who smoked Light or Ultra-Light cigarettes tended to have tried more quitting strategies than those who smoked Regular cigarettes (Giovino *et al.*, 1996, p. 51). Among those smokers who had never attempted to quit, smokers of low-tar cigarettes were more likely to say that they had considered quitting.

Similar interest in both quitting and healthy behavior comes from a study of U.S. Air Force trainees (Haddock *et al.*, 1999). These researchers reported that individuals who said that they had "switched to a lower tar/nicotine cigarette just to reduce their health risk" were more likely to have experienced a successful 24-hour quit attempt in the past, had more healthy diets, and were less likely to take other kinds of risks. These switchers were also less likely to say that they were addicted to cigarettes.

However, there are no data that show switching to reduced-tar cigarettes increases the likelihood of quitting. In fact, given the perceived reduction in risk from smoking Light cigarettes, a switch to such brands may well weaken the motivation to quit. In the Health Canada survey, 32.0 percent of those who started with, and continued to, smoke Light cigarettes made a quit attempt in the previous 3 months, compared to 15.1 percent of those who started with, and continued to, smoke Regular cigarettes. But of those who started with Regular cigarettes and were currently Light cigarette smokers, only 16.7 percent had tried to quit recently (data from Health Canada, 1995).

A large 1986 national study of adults in the United States who had ever smoked found that those who smoked low-yield cigarettes, regardless of whether they had ever switched to lower yield cigarettes, were less likely to have quit than those who smoked high-yield brands (Giovino *et al.*, 1996, p. 49). Persons who had ever switched brands to reduce their level of tar and nicotine also were less likely to have quit than those who had never switched brands to reduce their level of tar and nicotine.

When Air Force trainee smokers—who had been required to abstain from smoking throughout their basic military training—were contacted 12 months later, only 12.5 percent of switchers and 11.1 percent of nonswitchers were still abstinent (Haddock *et al.*, 1999). Controlling for demographic factors and smoking history, this difference was not statistically significant (odds ratio = 1.04, $p > .5$). Among Air Force trainees, switchers did report

smoking fewer cigarettes than nonsmokers. However, in the 1995 Health Canada survey, people who had started smoking Regular cigarettes and currently smoked Light cigarettes did not smoke fewer cigarettes per day than those who stayed with Regular cigarettes.

Thus, even among individuals who had switched specifically because they were concerned about health risks, who had been assisted in long-term quitting by a mandatory abstinence period, or who said they were less addicted to cigarettes than did the nonsmokers, the switch to Light cigarettes prior to the abstinence period did not help them stay abstinent. Switching to Light cigarettes does not seem to be any more of a route toward quitting than simply staying with Regular cigarettes.

Thus, no data exist that indicate switching to Light or Ultra-Light cigarettes actually assists smokers in quitting.

SUMMARY Overall, the accumulated data are quite consistent. They show that many consumers use the terms 'Light' and 'Ultra Light' as a guide to the riskiness of particular brands of cigarettes. To a considerable extent, smokers choose Light and Ultra-Light brands because they think that these cigarettes are not as harmful and cause fewer health problems. Particularly, individuals who are most concerned about smoking risks and most interested in quitting adopt low-yield brands.

To determine whether switching helps people to smoke less or to quit, one would ideally examine two groups with the same interest in quitting and the same smoking history. One would compare the group that switched with the group that did not, looking at both cessation and smoking rates over time. In reality, however, those who switch are different from nonsmokers in numerous ways, all of which should facilitate their quitting and reduce the amount that they smoke. Despite these facilitating factors, the data show that switchers to a Light or Ultra-Light cigarette are not more likely to become nonsmokers than are nonsmokers.

Surveys indicate that switching to low-yield cigarettes is viewed by many smokers as a healthier choice. Given the interest in quitting among those who make this choice, their failure to quit at rates any higher than those who do not switch suggests that switching reduces the motivation to stop smoking. Thus, the advertising of brands designated as 'Light' or 'Ultra Light' misleads smokers as to the benefits these brands offer.

The data collected since publication of the 1996 NCI monograph only reinforce the conclusion reached by Giovino and colleagues (1996) in that volume that the existence of so called 'Light' and 'Ultra Light' cigarettes has kept many smokers interested in protecting their health from quitting. "The net effect of the introduction and mass marketing of these brands, then, may have been and may continue to be an increased number of smoking-attributable deaths."(Giovino *et al.*, 1996.)

*Smoking and Tobacco Control Monograph No. 13***CONCLUSIONS**

1. Many consumers use the terms 'Light' and 'Ultra-Light' as a guide to the riskiness of particular brands of cigarettes.
2. Many smokers choose Light and Ultra-Light brands because they believe that such cigarettes are less likely to cause health problems.
3. Individuals who are most concerned about smoking risks and most interested in quitting adopt low-yield brands.

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